

*litica* and *L. cardinalis*. A careful comparison shows the following peculiarities: Leaves and calyx nearly as hairy as those of *L. sypphilitica*; bracts intermediate; the flowers have the slender tube and the aspect of *L. cardinalis*, but broader at the mouth and with more conspicuous folds in the throat, nearly as large as in *L. sypphilitica*. It has also the reflexed calyx sinuses of the latter species, but they are very short. The color is remarkable, and led to the discovery of the plant, being a deep reddish or crimson-purple; different from any plant I can now call to mind. It grew in the midst of a patch of *L. sypphilitica* in low, moist woods; no plants of *L. cardinalis* nearer than two hundred yards, at which distance there were several. There were but two plants of the hybrid.—J. SCHNECK, *Mt. Carmel, Ill.*

I have received and examined a specimen of this interesting plant, and I have no doubt that it is rightly considered to be a hybrid between *Lobelia sypphilitica* and *L. cardinalis*. I never saw the like of it before.—ASA GRAY.

MISTLETOE PARASITIC ON ITSELF.—The Mistletoe (*Phoradendron flavescens*) abounds in Florida, where it may be found on nearly every kind of tree. We know of one plant of it growing on a low *Prunus Chicosa*, only eight feet from the ground; but it attains its greatest development on the lofty branches of old oaks, where a single plant frequently attains the size of a hoghead. Having a fine oak which had become overrun by this parasite to an extent which endangered the life of the tree, we recently had the mistletoe cut off. It would have required a hay-rack to carry it away at one load, for it equalled in amount the natural foliage of the tree. The fertile and sterile plants were about equal in number, size and color, but all were more *flavescent* than those growing on less burdened trees. We were not before aware that any plant ever grew on another of its own species, but here we found two instances of this phenomenon. In one case a staminate plant grew on a staminate, and in the other a pistillate on a staminate. In both cases the double parasitism was proved by the fact that the secondary plants sprung from internodes, and in the last the proof was rendered doubly strong by the dioecious character of the plant.

It would be interesting to know how the mistletoe compares in northern and southern latitudes as to germination and maturing of fruit. In Florida both are about simultaneous, but in the Northern States it would seem that an interval of several months must intervene. If so, there must be a much greater waste of seed, and probably the seed finds secure lodgment and germinates mainly on rough-barked trees. The distribution of the mistletoe must be effected mainly through the agency of birds, and yet it seems almost impossible that so soft a berry can pass through the digestive system without losing its vitality. At any rate the special adaptation of the fruit is for ready adhesion to external objects. Even to planed boards it adheres with almost the tenacity of glue. In this latitude the berries of the mistletoe are too green at Christmas to be of interest for decoration except from association. Towards the close of winter the pulp becomes thin and gelatinous, and the germ begins to grow and turn green within its nourishing and translucent envelope. In this condition the berries are readily beaten off by the spring rains and winds on to other branches, when the germs, already highly developed, quickly pierce through the bark to the nourishing streams of sap flowing beneath.

It would seem that the mistletoe, being green throughout, was specially adapted for the elaboration of sap, and that it ought to assist the tree in this office, if for no other reason than to maintain the health of the latter. Such services are sometimes performed by animal parasites, but common observation goes to show that vegetable parasites take only and give nothing. That this is true of the mistletoe is indicated by the fact that the portion of the branch beyond its insertion frequently dies, when the remaining portion ceases to grow. In such cases, the mistletoe will continue to grow until its diame-

ter exceeds that of the sustaining branch, which being overweighted, can no longer support the parasite except in a pendent position.—A. H. CURTISS, *Jacksonville, Florida*.

**A CONVENIENT MICROSCOPE.**—I have been so frequently consulted of late as to the best form of dissecting microscope for botanical purposes, that I am glad to be able to say our well-known Optician, Mr. Joseph Zentmeyer, of Philadelphia, has just constructed one that in all respects is what the analytical botanist requires. Mr. Zentmeyer needs no word of mine to commend his work. It is in the interest of botany that I write this.

The stand is round, of cast iron, and six inches in diameter. Hence the instrument is perfectly steady. The pillar supporting the stage is strong, of brass, and three inches high. Of just such a height that the hands holding the needles are free from tremor because the arms rest solidly on the table. The stage of brass is five inches long by nearly four wide, and *stationary*, thus contrasting most favorably with the old Raspail, and some of the later instruments. There is a glass plate nearly two inches in diameter in the middle of the stage, and abundant light is thrown on this from the mirror beneath. The arm carrying the lens is raised or lowered by a firm, and charmingly smooth working rack and pinion, which has a free lateral movement. A good lens magnifying about ten diameters completes this model instrument. Its advantages are: strength, neatness and a large steady stage, over all the cheaper instruments of this class, and it has all the good points of the finer dissecting microscopes at about half the cost. The glass plate in the stage may be removed and a watch glass put in, to contain any object we wish to examine in water, or an alcohol lamp placed under the stage will keep up the gentle heat we sometimes want in work.

The instrument as I have described it with a neat box, costs only fifteen dollars, and one dollar more would add an extra, higher-powered lens, thus making it equal to any work involved in analytical botany. Beside this, a tube might be added to screw into the arm carrying the lens, and thus at a very small additional expense the owner would have a compact, strong compound microscope that would do good field work with even a quarter or a fifth of an inch objective. For the botanical laboratories of Colleges it has no superior, when we consider economy and durability.—J. T. ROTHROCK.

**MONOTROPA UNIFLORA.**—Notwithstanding the pretty general distribution of this peculiar type of vegetation, its comparative numerical paucity in any region appears as rather a striking feature. In many hundreds of botanical walks we have found but one locality where this plant seems anyways abundant. This was in what is known as the "Beech and Oak Flats" of Jefferson county, Indiana. The timber is often quite dense, and the vegetable debris has often formed to quite a thickness by natural accumulation from year to year, and at the same time being aided by the presence of water except in the dryest seasons. Under such circumstances vegetable products of a fungus type are readily encouraged in growth. Here within the compass of a few square yards, and among the beech roots, we have secured as many as 50 fine specimens. However, in contemplating their beauty of form and delicacy of structure, we did not suspect such a poisonous principle to lurk within as we have since found to be the case.

During the month of September a young lady brought me a plant which she said had poisoned her, and she desired its name. With some surprise, and perhaps I should have had none after considering its fostering food and close resemblance to the Fungi, I found the plant to be *Monotropa uniflora*. The circumstances of the case are as follows. The young lady while examining the plant accidentally crushed the stem, and some of the juice was driven upon her lips. The mucous portions which were somewhat chapped became very much irritated, and began to inflame and swell consider-